An Update on IOOS Related Archive Activities

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A Lot Is Going On…

- Adoption and growing conformance to the **Open Archival Information System Reference Model**
- Passage and *implementation* of the **NOAA Procedure for Scientific Records Appraisal and Archive Approval**
- Progress in **unified cross-Data Center metadata management**
- And more…

The OAIS Reference Model

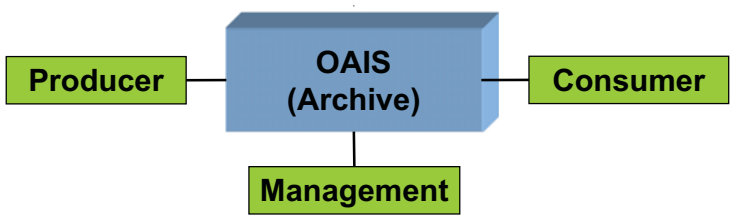
- The CCSDS and ISO Standard (14721) for Digital Archives
- Applies to all organizations that need to preserve digital information for the long-term
- Does NOT specify any particular implementation
- An organization *conforms* to the OAIS RM by discharging a minimal set of responsibilities and supporting basic information concepts

An OAIS Archive…

- Negotiates and accepts information from **Producers**
- **Obtains sufficient control** to ensure long-term preservation
- Ensures the information to be preserved is **independently understandable** to identified **Designated Communities**
- **Follows** documented **policies and procedures** to insure information is preserved
- **Provides information** to the Designated Communities in understandable forms

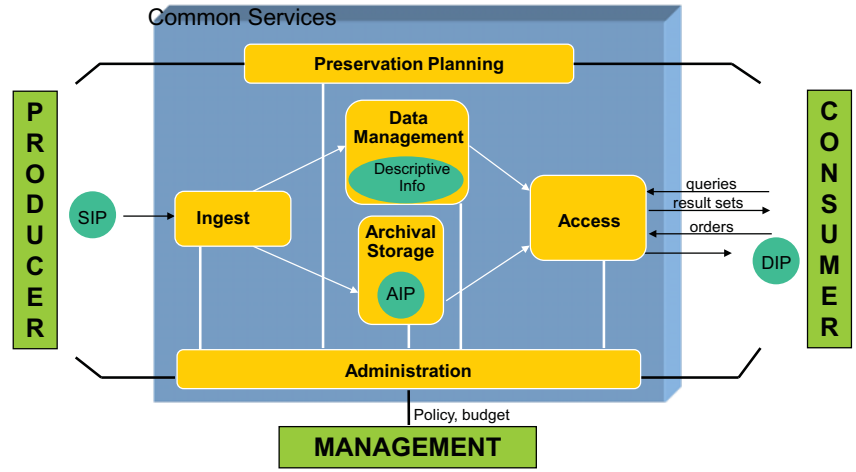
The OAIS Environment

- ***Producer*** provides information to be preserved
- ***Management*** sets overall policy
- ***Consumer*** seeks and acquires preserved information



The OAIS Environment from 30,000 ft

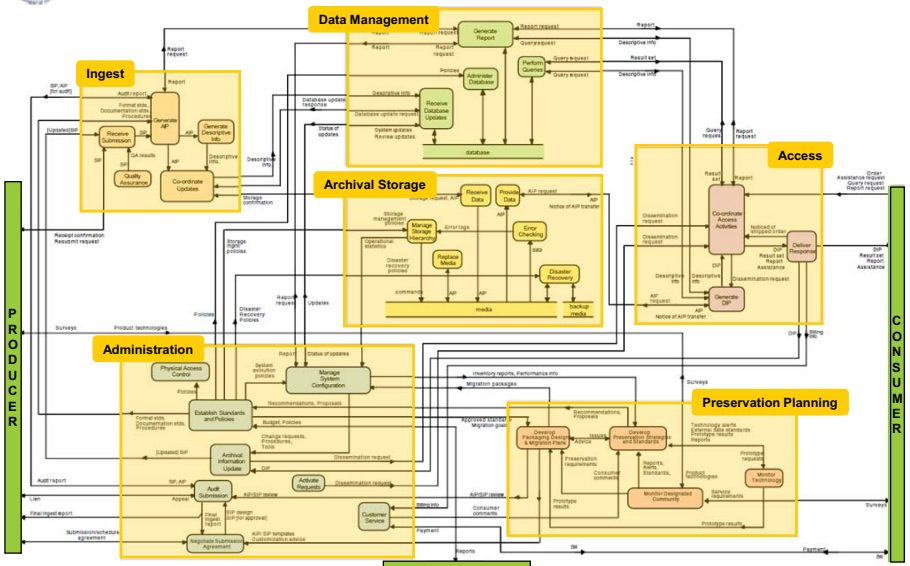
OAIS Functional Entities



SIP = Submission Information Package
AIP = Archival Information Package
DIP = Dissemination Information Package

The OAIS Environment from 10,000 ft

OAIS Functional Entities



The OAIS Environment from Sea Level

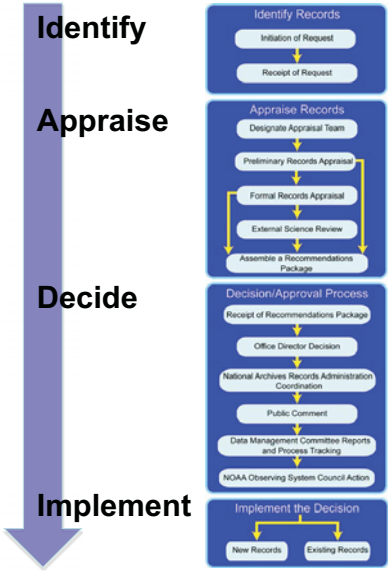
Adapted from Figure F-1: Composite of Functional Entities

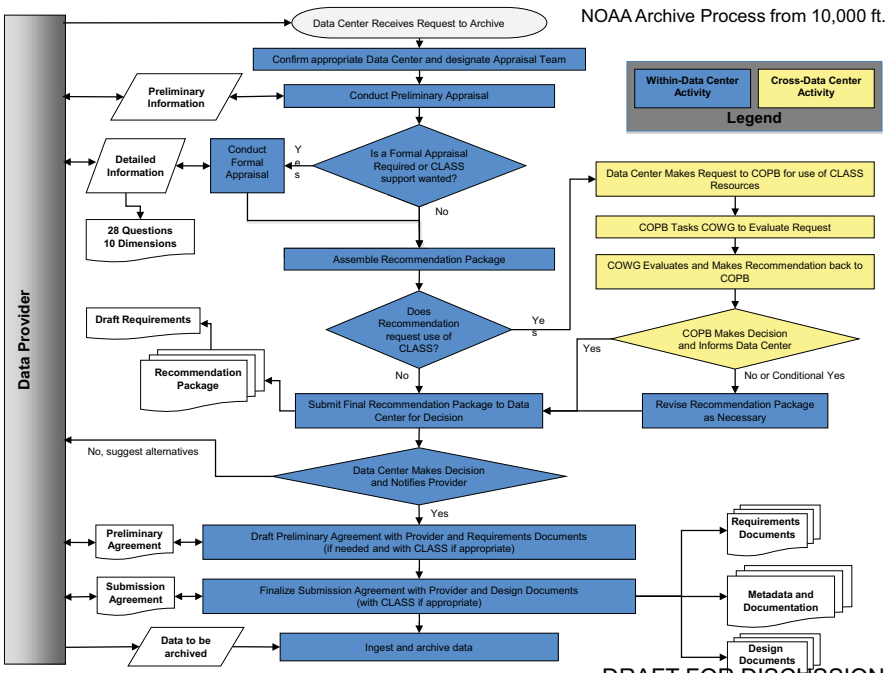
In other words, an Archive is a whole lot more than a couple copies of data on your shelf

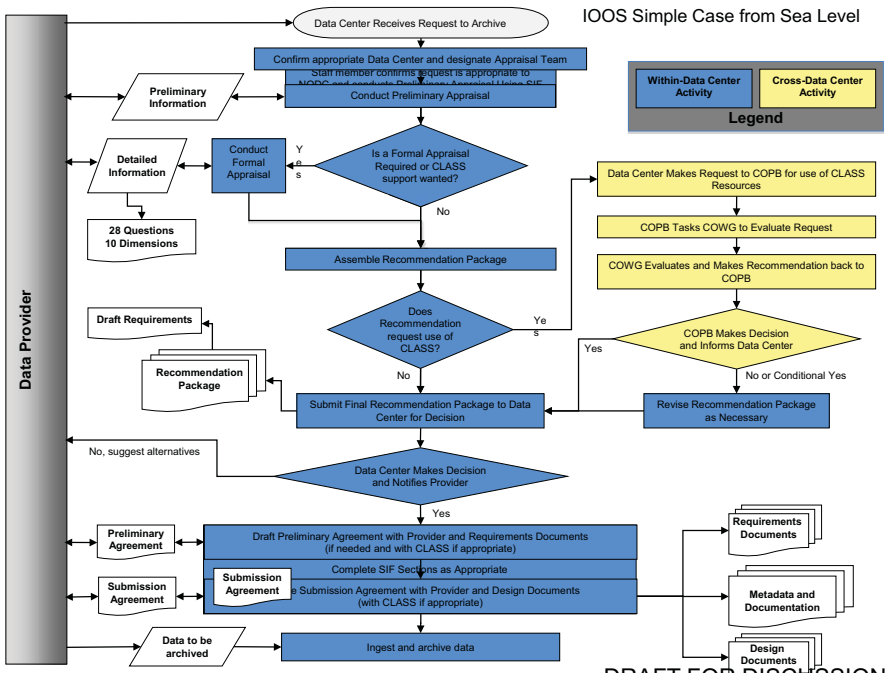
Why Should IOOS Care?

- The OAIS-RM provides the ***lingua franca*** – finally we can all talk to one another!
- The OAIS-RM provides a robust collection of archive functions – great for "gap analysis" and to help us all agree on what an Archive is and does
- Adoption and conformance to the OAIS-RM is structuring the way the three NOAA Data Centers, other non-NOAA archives, CLASS, the DMC, the DMIT, and the Archive Architecture Team think, talk, and act…

NOAA Procedure for Archive Approval



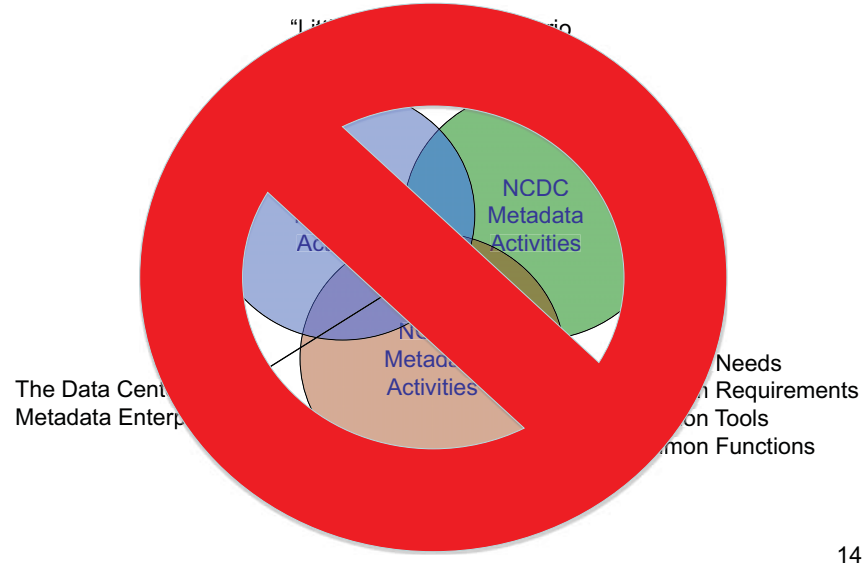




Cross-Data Center Metadata

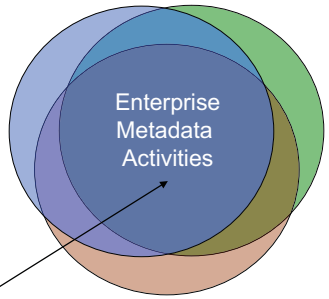
- During 2009 the three NOAA Data Centers worked together to define an "Enterprise Metadata System", toward which we could all work
- We began by evaluating our common needs, requirements, tools, and metadata functions…

The Metadata Enterprise



The Metadata Enterprise

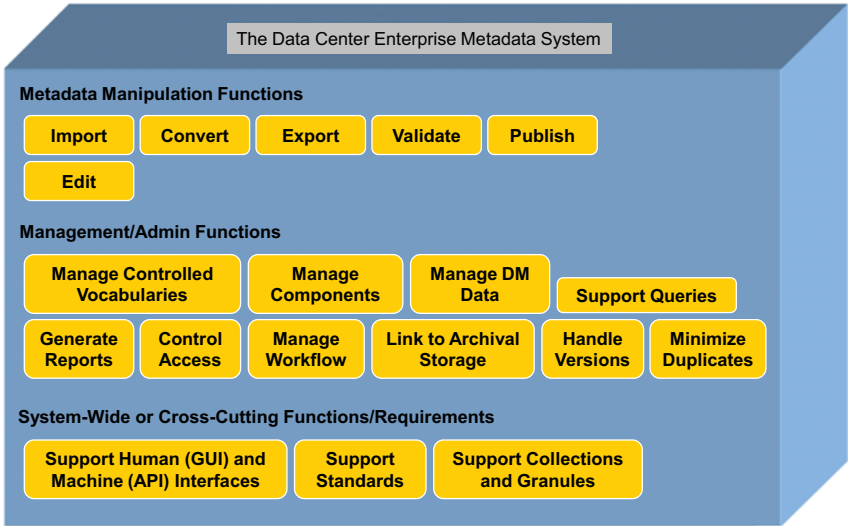
"Lots in common" Scenario



The Data Center
Metadata Enterprise

Common Needs
Common Requirements
Common Tools
Common Functions

Enterprise Functions



Cross-Data Center Metadata

- Near Term (FY09)
  - Create a cross-Data Center FGDC catalog
    - web accessible folder, WAF, hosted at NODC
    - FAQ/HTML/TXT views with USASearch.gov/Google Search
  - Inventory vocabularies used across the Data Centers
  - Identify all metadata components (e.g., Contact List, Distributor, Source,…)
  - Hold follow-on technical meeting (later this month) to identify technical path forward
- Mid Term (Q2FY10)
  - Time series metadata
  - Add ISO view to consolidated WAF
  - Identify vocabularies ripe for consolidation
- Long Term (Beyond)
  - Follow both Development and Implementation Plans to get us to the "enterprise" system

Why Should IOOS Care?

- The consolidated metadata catalog and enhanced search/discovery/access capabilities being deployed will directly benefit "IOOS data" archived at NODC
- Eventually, the tools and capabilities may be deployable by IOOS partners, thereby assisting in their metadata efforts

And much more…

- Increasing use of submission agreements (SAs)/submission information forms (SIFs)
- Progress at NODC on conformance with WMO Information System (WIS) and WMO Integrated Global Observing System (WIGOS) requirements
- Internal coordination at NODC to move forward with NDBC archive "modernization"
- Agreement within NODC to promote netCDF/HDF more broadly as archival formats (with appropriate file- and collection-level metadata of course!)
- NODC OPeNDAP server online! http://data.nodc.noaa.gov/opendap

Looking Forward

- Convene the IOOS Archive Working Group
- Work with NODC, NDBC, and the Archive WG to evaluate IOOS protocols and the level to which they support archive requirements,
- Then make recommendations!

Questions?

(remaining slides are just for reference)

Ingest

4.1.1.2 Ingest

The functions of the Ingest entity are illustrated in figure 4-2.

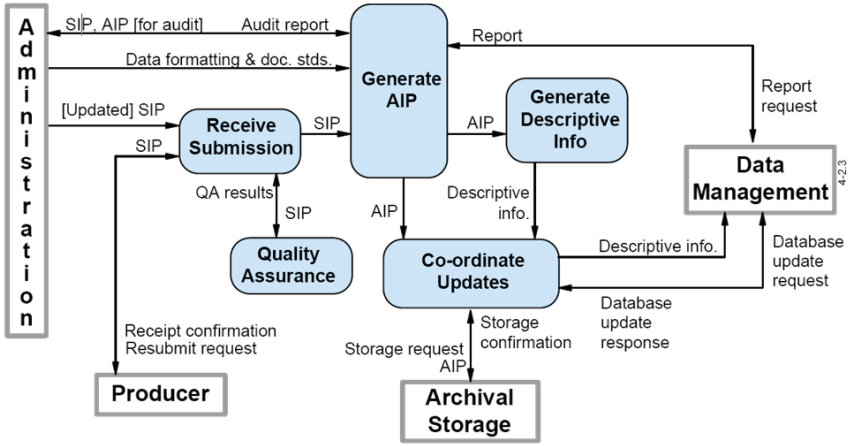


Figure 4-2: Functions of Ingest

Archival Storage

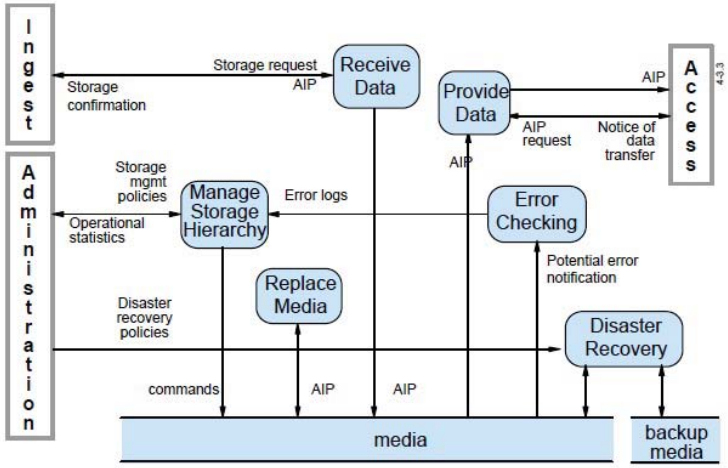


Figure 4-3: Functions of Archival Storage

Data Management

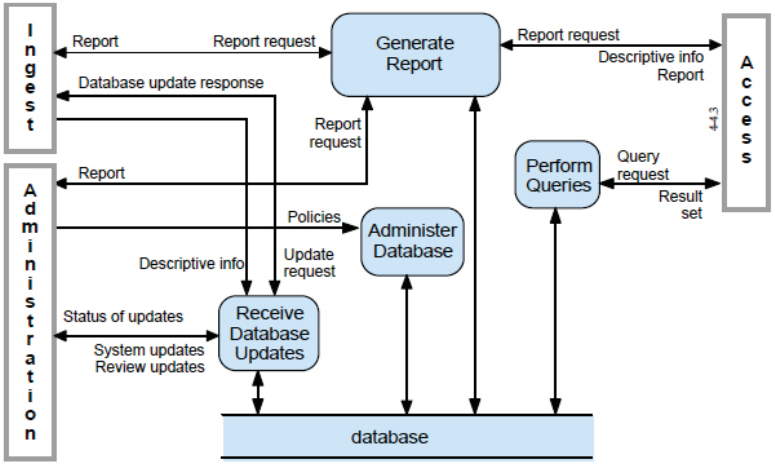


Figure 4-4: Functions of Data Management

Access

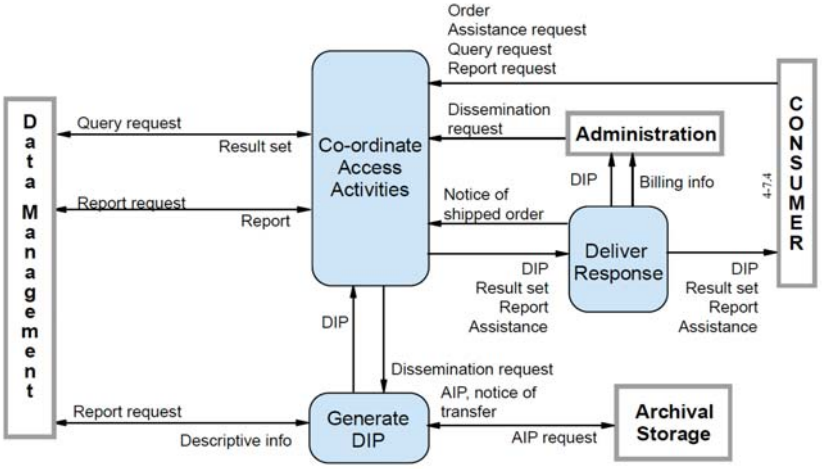


Figure 4-7: Functions of Access

Administration

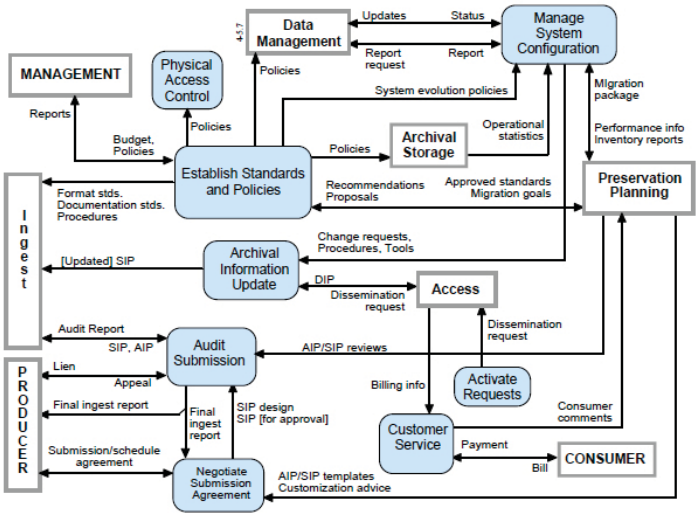


Figure 4-5: Functions of Administration

Preservation Planning

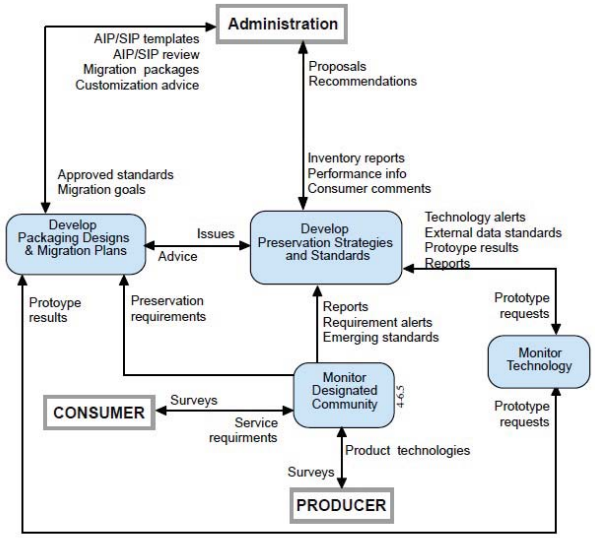


Figure 4-6: Functions of Preservation Planning